

VISIT...

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ON PRODUCTS

The fastest way to lose points is to hand in messy samples. Lots of things can happen to foul up your product. The following are unforgivable sins!

SOLID PRODUCTS

1. ***Trash in the sample.*** Redissolve the sample, gravity filter, and then evaporate the solvent.
2. ***Wet solids.*** Press out on filter paper, break up, and let dry. The solid shouldn't stick to the sides of the sample vial. Tacky!
3. ***Extremely wet solids (solid floating in water).*** Set up a gravity filtration (see Chapter 13, "Recrystallization") and filter the liquid off of the solid. Remove the filter paper cone with your solid product, open it up, and leave it to dry. Or remove the solid and dry it on fresh filter paper as above. Use lots of care, though. You don't want filter paper fibers trapped in your solid.

LIQUID PRODUCTS

1. ***Water in the sample.*** This shows up as droplets or as a layer of water on the top or the bottom of the vial, or *the sample is cloudy*. Dry the sample with a drying agent (see Chapter 10, "Drying Agents") and gravity filter into a clean dry vial.
2. ***Trash floating in the sample.*** For that matter, it could be on the bottom, lying there. Gravity filter into a clean, dry vial.
3. ***Water in the sample when you don't have a lot of sample.*** Since solid drying agents can absorb lots of liquid, what can you do if you have a tiny amount of product to be dried? Add some solvent that has a low boiling point. It must dissolve your product. Now you have a lot of liquid to dry, and *if a little gets lost, it is not all product*. Remove this solvent after you've dried the solution. Be careful if the solvent is flammable. *No flames!*

THE SAMPLE VIAL

Sad to say, but an attractive package can sell an inferior product. So why not sell yours. Dress it up in a **neat new label**. Put on

1. **Your name.** Just in case the sample gets lost on the way to camp.
2. **Product name.** So everyone will know what is in the vial. What does “Product from part C” mean to you? Nothing? Funny, it doesn’t mean anything to instructors either.
3. **Melting point (solids only).** This is a range, like “M.P. 96–98°C” (see Chapter 12, “The Melting Point Experiment”).
4. **Boiling point (liquids only).** This is a range “B.P. 96–98°C” (see Chapter 20, “Distillation”).
5. **Yield.** If you weigh the empty vial and cap, you have the **tare**. Now add your product and weigh the full vial. Subtract the *tare* from this *gross weight* to get the **net weight** (yield, in grams) of your product.
6. **Percent yield.** Calculate the percent yield (see Chapter 2, “Keeping a Notebook”) and put it on the label.

You may be asked for more data, but the things listed above are a good start down the road to good technique.

P.S. Gummed labels can fall off vials, and pencil will smear. *Always use waterproof ink!* And a piece of transparent tape over the label will keep it on.

HOLD IT! DON'T TOUCH THAT VIAL

Welcome to “You Bet Your Grade.” The secret word is **dissolve**. Say it slowly as you watch the cap liner in some vials dissolve into your nice, clean product and turn it all goopy. This can happen. A good way to prevent it is to cover the vial with aluminum foil before you put the cap on. Just make sure the product does not react with aluminum. Discuss this procedure at length with your instructor.